

1 (10) ABSTRACT

Methods and apparatus for packing, including single pixel data strings, and playback tracking of informative data, e.g., audio signals, associated with graphics. To maximize the signal-to-noise ratio during data recovery, a Read sensor is kept substantially on-center of each data block throughout reading. A Print-and-Read ink-jet embodiment carriage mechanism in conjunction with the paper feed mechanism keeps the Read sensor on track center as misalignment information has been determined beforehand or in real time for active track servoing. Additional functionalities are incorporated in scanning ink-jet class of printers so that they can further operate as informative data recovery or retrieval systems for digitized data on graphical data images. In another embodiment, a digital camera itself is provided with additional functionalities to operate as a recovery and playback device for prints containing informative data.